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ABSTRACT

To determine the relationship of organizational characteristics to the effective implementation of mainstreaming as mandated in P.L. 94-142, the Education for All Handicapped Children Act, the responses of 99 Oregon schools to a questionnaire were analyzed. Multiple regression and correlational techniques were used. The regression equation formed of the nine most significant variables accounted for 64% of the total variance in effective mainstreaming. Significant variables included clarity of school mainstreaming goals, staff knowledge, communication between principal and special educators, principal's advocacy and leadership style, and school size. It is concluded that successful implementation of mainstreaming depends on a more systemwide approach involving the whole school. (Author/CL)

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ABSTRACT: Implementing Public Law 94-142: A Case For Organizational Readiness

The purpose of this investigation was to determine the relationship of organizational characteristics to the effective implementation of mainstreaming. The conceptual framework emanated from research on change and innovations in public schools.

Questionnaires were sent to a random sample of Oregon schools (response rate 66%). Multiple regression and correlational techniques were used for Data Analysis.

The regression equation formed of the 9 most significant variables accounted for 64% ($p < .001$) of the total variance in effective mainstreaming.

Significant variables included: Clarity of school mainstreaming goals; Staff knowledge; Communication between principal and special educator; Principals' advocacy; Principals' leadership style; and School size. The investigation concludes that characteristics of effective mainstreaming programs are the same ones that are important in other studies of implementation. The point is made that effective mainstreaming programs are built with clear goals, well defined roles, and knowledgeable personnel.

IMPLEMENTING PUBLIC LAW 94-142: A CASE FOR ORGANIZATIONAL READINESS

In 1975, a landmark piece of legislation passed the 94th Congress. Public Law 94-142, the Education for All Handicapped Children Act, requires that all handicapped children be provided a free appropriate public education in the least restrictive environment. The law mandates mainstreaming, which is commonly interpreted to mean the placement of handicapped children in regular classrooms to the maximum extent possible.

The requirements of this law propose major and far reaching changes in the way that public school personnel work with children. The nature of special education is changing and the restructuring that must occur to fit the Individual Educational Planning team concept and the resource room/consultant model of service delivery make demands that many school organizations are not prepared to handle. Changes in materials, methods, structure, attitudes and knowledge are necessary in order to fully implement the mandate of the law. (Fullan and Pomfret, 1977). Seymour Sarason, (1978), the noted Yale psychologist, has said:

> *We cannot assume that institutions will accommodate appropriately to mainstreaming because we think it is desirable. Deeply rooted attitudes, reinforced by traditions, institutions and practices are not changed except over long periods of time, and mainstreaming is no exception. (p. 5)*

Few researchers in special education have studied the impact of mainstreaming on the total school organization. Little emphasis has been placed on organizational factors, such as staff motivation, support from the administration, resources, teachers' feelings of competence to work with handicapped children, and rewards for participation.

Yet a body of research evidence has accumulated (Sarason, 1971, Fullan and Pomfret, 1976; Smith and Keith, 1971; Berman and McLaughlin, 1975; Emrick and Peterson, 1978) which proposes that it is these organizational factors that are crucial to successful change. The findings of this research stress four major areas that have far reaching implications for mainstreaming.

1. Group interdependence is essential, in other words, teachers cannot behave in disconnected and independently determined ways in schools that offer the least restrictive environment to handicapped children. In these schools, no single person or group functions without reciprocal actions on the part of others (Arends and Arends, 1978; Berman, et al, 1975; Sarason, 1971).

2. Group cooperation is necessary to successfully implement an innovation. The research on innovation and change demonstrates that lasting school change occurs most readily in schools with cooperating work groups (Berman, et al, 1975; Gross, Giaquinita and Bernstein, 1971; Smith and Keith, 1971). These authors suggest that just as baseball teams and symphony orchestras must practice to combine their skills into a team effort, so must a school staff practice working together in order to effectively mainstream handicapped children.

3. Good communication systems are essential for lasting change. Teachers must clearly know their role, and how it fits into the larger picture of school-wide change (Rogers, 1971). Goals of the mainstreaming program must be effectively communicated to all levels of the school organization, from administration to teachers to students.

4. The principal plays an important role in the successful implementation of innovations. Principals can act as "gatekeepers of change"

(Berman, et al, 1975), facilitating or inhibiting the success of mainstreaming. Through resource allocation, interest and advocacy of mainstreaming, the principal is a vital link to successful change.

The research on innovation and change clearly stresses the importance of a broader organizational perspective when attempting to make change. In this context, current training programs in mainstreaming which stress only specific skill instruction for individual teachers (i.e., behavior modification, diagnosis/prescription, and individualizing instruction) attack only part of the problem, and fail to attend to the organizational variables that are seen as essential by researchers on innovation and change, factors such as group interdependence, cooperation and communication, and administrative advocacy.

In an attempt to examine the discrepancy between the previously mentioned research, and the focus of most current mainstreaming training methods, the following research study was planned. The conceptual framework guiding this study emanated from research on innovation and change, proposing that it is organizational characteristics, not the characteristics of individual teachers, that facilitate or impede change.

The purpose of this study was to isolate selected organizational variables that previous studies of innovation in schools had found to be important, and then determine the relationship of these organizational variables to the implementation of mainstreaming.

METHOD

Independent Variables

Independent variables were selected as a result of reviewing the literature on innovation and change, particularly the research of Gross, et al, (1970); Katz and Kahn, (1966); Berman and McLaughlin, (1977); Kritek, (1976); and Carlson, (1966). Several variables were measured with fill in the blank responses, i.e., "size of school," "size of district," "number of handicapped children." Other variables were measured by summing the responses of principal and special educator to items using a five point Likert Scale. For instance, Principal's advocacy of mainstreaming was measured by summing the principal's self report and the special educator's rating of the principal on knowledge, participation in IEP meetings, and attitudes toward the handicapped. Clarity of school mainstreaming goals, and staff knowledge of mainstreaming procedures were measured by asking principals and special educators to respond to several items on a Likert Scale. Principal's opinion leadership was measured by a 7 item scale developed by Gross (1971), and Leadership style was measured with a scale developed by Schmuck and Runkel (1977). Table 1 presents the list of independent variables with measurement procedures.

Table 1 inserted about here

Dependent Variable

The dependent variable was defined as effectiveness of the school mainstreaming program. It was measured by combining responses of principal and special educator to several items which rated how effective and smooth

TABLE 1

Independent Variable Measurement Procedures

		Response Type	Respondent
1.	Size of School	Fill in blank	P
2.	Size of District	Fill in blank	P
3.	Number Handicapped Children	Fill in blank	P
4.	Number of Special Ed Resource Personnel	Fill in blank	P
5.	Staff Knowledge of Mainstreaming Procedures	Likert	P + S
6.	Clarity of School Mainstreaming Goals	Likert	P + S
7.	Agreement of Principal and Special Educator reports	Score Difference	P + S
8.	Principal's Age	Fill in blank	P
9.	Principal's Sex	Fill in blank	P
10.	Principal's Length of Time at School	Fill in blank	P
11.	Principal's Career Aspiration Level	Likert	P
12.	Principal's General Training	Fill in blank	P
13.	Principal's Sp. Ed. Training	Fill in blank	P
14.	Principal's Opinion Leadership	Likert	P + S
15.	Principal's Advocacy of Mainstreaming	Likert	P + S
16.	Principal's Leadership Style	Likert	P

P = Principal

S = Special Educator

running their school's mainstreaming program was, using a 5 point Likert Scale. The ratings were summed to obtain a total effectiveness rating for the school.

Subject

Questionnaires were sent to 150 randomly selected elementary schools in Oregon. In order to more adequately assess the administrators' impact, schools were selected only if the principal had been there for at least a year. Because of the disproportionately large numbers of small rural schools in Oregon, the sample was stratified according to size to insure equal representation.

In each school the principal and the special educator who had major responsibility for the mainstreaming program were asked to respond. If there was no full time special educator, then the county or school district special educator who served the school was given the questionnaire. Total response rate, after follow-up procedures, was 99 schools (66%) in which both principal and special educator returned the questionnaire.

Data Analysis

The goal of this study was to identify organizational variables that correlate with effective mainstreaming implementation. In order to analyze the variance in these variables, multiple regression techniques were used for data analysis with stepwise procedures according to the Statistical Package for the Social Sciences (SPSS) by Nie, Hull, Jenkins, Steinbrunner and Bent (1975). Subprograms CORRELATION, FREQUENCIES AND REGRESSION were used for analysis.

TABLE 2

Selected Summary Statistics

Variance Name	Simple r with Dependent	Corrected R^2 (see note)	Corrected R^2 Change % Variance Explained	Total Variance Explained This Step
1. Clarity of School Mainstreaming Goals	.62**	.380	38%	38%
2. School Size	.13	.458	7.8%	45.8%
3. Agreement of Report (Prin. & Sp. Ed.)	.24	.522	6.5%	52.2%
4. Sp. Ed. Resource Personnel	-.22	.549	2.7%	54.9%
5. Principal's Advocacy of Mainstreaming	.37**	.569	2.0%	56.9%
6. Leadership Style of Principal	.32*	.584	1.5%	58.4%
7. Number of Handicapped Children	.05	.611	2.6%	61.1%
8. Principal's Age	.32*	.633	2.2%	63.3%
9. District Size	.07	.639	.6%	63.9%
10. Principal's Sp. Ed. Training	.11			
11. Principal's Sex	.22			
12. Principal's General Training	-.19			
13. Principal's Opinion Leadership	.27			
14. Principal's Career Aspirations	-.06			
15. Principal's Years at School	.09			
16. Staff Knowledge of Mainstreaming	.51**			

** = ($p < .01$)

* = ($p < .05$)

NOTE: This measure provides a more conservative estimate of explained variance than R^2. It is appropriate where there is a relatively large number of independent variables and a relatively small number of cases. The formula is:

$$\text{Corrected } R^2 = R^2 - \frac{k - 1}{N - k} (1 - R^2)$$

RESULTS

The total variance explained by the regression equation is an important focus of analysis. It indicates the power of the relationship of the organizational variables to effective mainstreaming implementation. Table 2 shows selected summary statistics. The focus of interest is the Corrected R^2 change statistic, an estimate of the total percent of variance explained by this specific combination of variables.

Table 2 inserted about here

Only the first nine variables were used in the regression equation analysis. An examination of the Corrected R^2 change column shows that variables 10 through 14 make such small increases in the power of prediction that their inclusion is not justified in the equation when a criteria of at least .5% (.005) increase in the power of prediction is used. Table 2 shows that a combination of 9 of the original 16 independent variables can explain nearly 64% of the total variance in mainstreaming effectiveness. The nine variables, in the most efficient combination, are: Goal Clarity, School Size, Agreement of Report of Principal and Special Educator, Full Time Resource People, Principal's Advocacy, Principal's Leadership Style, Number of Handicapped Children, Principal's Age, and District Size.

The statistical significance of the amount of variance explained by these nine independent variables was tested. With an F ratio of 10.08 (df 9,42), the significance level exceeds .001.

The individual variables which make significant contributions to explanation may be grouped for purposes of clarity into three categories:

communication/information variables; administrator variables; and demographic variables. Each of these groups make a significant addition to the description of schools that are able to successfully implement the innovation of mainstreaming. The following discussion focuses primarily on the significance and interpretation of two statistics used to assess unique contributions of individual variables, R^2 Change (the square semi-partial correlation), and beta weights (partial correlation coefficients). Variables not entered in the regression equation are analyzed with simple correlations.

KNOWING, DOING AND COMMUNICATING: A CASE FOR CLARITY

The first group of variables consists of Goal Clarity, Staff Knowledge, and Agreement of Reports of principal and special educator. These communication/information variables can be seen to be related to the way that schools communicate and impart knowledge of ongoing events in the school. They reflect the informal organization of the school, and the ability of the staff to keep informed and share important information.

Table 3 inserted about here

The variable with the highest correlation to effective mainstreaming implementation is Goal Clarity. This variable assessed how clearly the school mainstreaming goals are stated, and how well teachers understand how their jobs and work groups will change because of mainstreaming.

Table 3

Statistics for Communication/Information Variables

Variable Name	Entry No. in Equation	Simple Correlation with Dependent	R^2 Change Percent of Variance Explained	Beta Weight	F Ratio
Goal Clarity	1	.62**	38%	.583	27.98**
Agreement of Reports	3	.24	6.5%	.197	2.98
Staff Knowledge	Not In	.51**	---	---	---

** ($p < .01$)

* ($p < .05$)

When Goal Clarity is grouped with other independent variables, it makes the largest contribution to the regression equation, accounting for 38% of the total variance in the dependent variable. The significance of the unique contribution of Goal Clarity is expressed by a beta weight of .583. The F ratio associated with this beta is 27.98 ($p < .01$) making Goal Clarity a highly significant factor in explaining mainstreaming effectiveness.

A factor closely related to Clarity of Goals is Staff Knowledge, defined as a good general knowledge of mainstreaming procedures on the part of classroom teachers. While not a significant variable in the regression equation, the knowledge teachers have about how to teach handicapped children has a significant simple correlation of $r. = .51$ ($p < .01$) with the dependent variable, the effective implementation of mainstreaming.

The lack of inclusion of Staff Knowledge in the regression equation is due to the fact that Staff Knowledge shared much of its explanatory power with Goal Clarity, the most important variable in the equation. The significant contribution to the equation that Staff Knowledge might have made was diffused by its intercorrelation with Goal Clarity ($r = .69$). Nevertheless, Staff Knowledge makes an important contribution to the explanation of effective mainstreaming implementation. This finding accentuates the importance of skill training for teachers. Programs like Learning Opportunities for Teachers (L.O.F.T.) and courses in behavior modification and diagnosis and prescription have an important place in designing effective school mainstreaming programs. Teachers must know how to work with handicapped children, but as the high correlation between Goal Clarity and Staff Knowledge suggests in this study, they must also have the overall view, the "gestalt" of mainstreaming in their school. Teachers profit

from knowing how their skills and roles fit into the total mainstreaming program. The significance of these two variables supports the notion that effective programs are built with clear goals, well defined roles, and knowledgeable, well-trained personnel.

The issue of decision making and communication is an important one in mainstreaming. IEP teams, which coordinate planning and placement decisions for handicapped children, could become a battlefield if roles are not clearly defined and if communication is poor.

The Agreement of Reports of principal and special educator is an important addition to the prediction of effective mainstreaming programs. Agreement of Reports makes a significant addition to the regression equation, adding 6.5% to the total explained variance of mainstreaming. Agreement of Reports represents a measure of communication effectiveness between principal and special educator.

An analysis of the beta weight associated with Agreement of Reports finds an F ratio of 2.98, ($p < .10$), suggesting that in schools where principals and special educators agree in their reports, the mainstreaming program tends to be smooth running and effective.

Goal Clarity, Staff Knowledge, and Agreement of Reports together account for 46% ($p < .01$) of the total variance in the dependent variable, making the communication/information variables group the most important contributor to the success of implementation of mainstreaming.

DEMOGRAPHIC CHARACTISTICS

The kinds of schools that have effective, smooth running mainstreaming programs can be described with some significant demographic descriptions,

as Table 4 illustrates.

Table 4 inserted about here

Schools with effective programs tend to be large ($p < .01$). Apparently small schools have difficulty mustering the needed levels of resource support to serve their handicapped populations. In Oregon, with a large proportion of small rural schools, this problem is accentuated by the long distances that itinerant specialists must travel, reducing their actual teaching time with rural handicapped children.

As schools become larger and more complex, they can provide more services to handicapped students, both by providing specially trained resource teachers and by expanding the placement options with empathic classroom teachers.

The results of this study indicate that excess numbers of handicapped students and too many resources may not be effective in the implementation of mainstreaming. Both the Number of Handicapped Children ($p < .05$) and the Number of Specially Trained Resource Personnel (p = n.s.) are negatively correlated with success of implementation. This suggests that there may be an optimum number of handicapped children, with accompanying support service personnel, that is related to size of the school. This area deserves further study in order to explore the most efficient and productive use of resources and placement options for handicapped students.

As a group, these demographic variables account for 13.7% of the total variance in the dependent variable, which leads to the conclusion that knowledge of organizational demographics is an important factor in predicting

Table 4

Statistics for Demographic Variables

Variable Name	Entry No. In Equation	Simple Correlation With Dependent	R^2 Change Percent of Variance Explained	Beta Weight	F Ratio
School Size	2	.13	7.8%	.490	15.93**
Full Time Resources	4	-.22	2.7%	-.077	.548
Number of Handicapped	7	.05	2.6%	-.30	6.06*
District Size	9	.07	.6%	-.13	1.64

** ($p < .01$)

* ($p < .05$)

and describing those schools where mainstreaming has been successfully implemented.

ADMINISTRATORS: ADVOCATES AND LEADERS

Effective mainstreaming programs occur in schools where principals are seen as advocates of the program. Advocates are thought to defend the integrity of the innovation, recruit supportive members, and secure resources. The advocacy measure in this study was a composite of principal's self-ratings and special educator's ratings of the principal on knowledge and attitudes regarding the handicapped, participation in IEP meetings and special education programs, and general advocacy or support of mainstreaming.

Table 5 inserted about here

As Table 5 indicates, principals who are advocates of mainstreaming are significantly related to effective implementation ($p < .05$). A Leadership Style that is democratic and stresses team planning is also significantly correlated with successful implementation ($p < .05$). Apparently it is important to have principals who are advocates and see the importance of interdependence and team planning to successfully implement mainstreaming.

The results of this study indicate that while advocacy and support on the part of the administrator is a significant factor, it is less than critical to success. The total explanatory power offered by the group of Administrator variables is only 5.7%, while the group of Organizational and Demographic variables increases the power of prediction by 58.5%.

In the case of implementation of mainstreaming, where major changes

Table 5

Statistics for Administrator Variables

Variable Name	Entry No. in Equation	Simple Correlation With Dependent	R^2 Change Percent of Variance Explained	Beta Weight	F Ratio
Principal's Advocacy	5	.37**	2.0%	.277	6.36*
Leadership Style	6	.32*	1.5%	.252	5.98*
Principal's Age	8	.32*	2.2%	.16	2.62

NOT IN EQUATION

Variable Name	Simple Correlation With Dependent	Tolerance (Variance Unexplained by Other Variables)
Special Education Training	.11	.838
Principal's Sex	.22	.668
General Training	-.19	.803
Opinion Leadership	.27	.540
Career Aspirations	-.06	.773
Years at School	.09	.777

** ($p < .01$)

* ($p < .05$)

that affect the total organization occur, it appears more useful to study characteristics of the total organization rather than characteristics of individual members of the organization.

The principal's Special Education Training has almost no correlation to effective mainstreaming implementation. Special Education Training was defined as the number of courses or workshops related to the handicapped that the principal has had. Perhaps this indicates that perceived knowledge is more important than formal training. Possibly the more principals learn about mainstreaming, the more problems they see with implementation. This lack of relationship between formal training level and perceived knowledge and advocacy is an interesting one, and should have implications for further study for personnel trainers and special educators alike.

Possibly an innovation like mainstreaming is best learned in an informal manner. Individualized, building-wide in-service training, may be more effective than formal university course work, which tends to downplay the unique situational factors of school organizations.

DISCUSSION

This study suggests that current training programs that focus only on building teaching skills in individual teachers are insufficient to deal with the major organizational changes caused by mainstreaming. The resistance to change that may develop as a result of these programs is natural and normal. Mainstreaming requires changes in long-standing attitudes, beliefs, and practices regarding handicapped children. Full implementation of mainstreaming necessitates changes in materials, structure, attitudes, and knowledge on the part of every member of an organization.

Literature from the field of organizational innovation and change add significant insights into problems with the implementation of a least restrictive environment to handicapped children. Attention to organizational variables has been crucial to other change efforts, and this study demonstrates that these same organizational variables are significantly related to the effective implementation of mainstreaming.

Good communication networks, clearly stated and understood goals and a well trained staff are essential to build that "gestalt"--the total, overall view of mainstreaming. Also important to successful programs are supportive principals who are active advocates of mainstreaming.

The study concludes that while mainstreaming training aimed at building teaching skills in individual teachers is important, successful implementation of mainstreaming depends on a more system-wide approach that involves the whole school, from administrators to teachers. This training should focus on building strong communication systems and facilitating the development of clear and well understood school mainstreaming goals. This sort of organizational development training, combined with specific teaching skill training, would go a long way to overcome resistance to change and would facilitate the development of a mainstreaming program that truly offers the least restrictive environment to handicapped children.

BIBLIOGRAPHY

Arends, Richard I., and Arends, Jane H. Processes of Change in Educational Settings: An Application to Mainstreaming. Judith Grosenick (Ed.), Minneapolis, MN, 1978.

Berman, Paul, and McLaughlin, Milbrey Wallin. Federal Programs Supporting Educational Change Vol VII: Factors Affecting Implementation and Continuation. Rand Corporation, Santa Monica, CA, April 1977.

Carlson, R. O. Adoption of Educational Innovations. Eugene, OR, University of Oregon, 1965.

Emrick, John and Peterson, Susan. Educational Knowledge Dissemination Utilization. Far West Laboratory, San Francisco, CA, 1978.

Fullan, Michael, and Pomfret, Alan. "Research on Curriculum and Instruction Implementation," Review of Educational Research, 47(1), 335-397, Winter 1977.

Gross, Neal, Giaquinta, Joseph, and Bernstein, Marilyn. Implementing Organizational Innovations. Basic Books, New York, NY, 1971

Katz, Daniel, and Kahn, Robert L. The Social Psychology of Organizations. John Wiley and Sons, New York, NY, 1967.

Kritek, Williams. "Lessons from the Literature of Implementation," Educational Administration Quarterly, 12(3), 86-102, Fall 1976.

Machiavelli, Niccolo. The Ruler. Set One, Vol. 2, The Great Books Foundation, Chicago, IL, 1966.

Nie, Hull, Jenkins, Steinbrunner, and Bent. Statistical Packages for the Social Sciences. McGraw-Hill, New York, NY. 1975.

Rogers, Everett, and Schoemaker, Floyd. Communication of Innovations, Second Edition. The Free Press, New York, NY, 1971.

Sarason, Seymour B. Mainstreaming: Dilemmas, Opposition, Opportunities, in Maynard Reynolds, (Ed.), Futures of Education for Exceptional Students: Emerging Structures. National Support Systems Project, Minneapolis, MN, 1978.

Schmuck, Richard, Runkel, Philip, Arends, Richard, and Arends, Jane. The Second Handbook of Organizational Development in Schools. Center for Educational Policy and Management, University of Oregon, Eugene, OR, 1977.

Sivage, Carol. "Normalizing the School Environment for the Secondary Pupil: The State of the Art of Secondary Mainstreaming," in Implications of Mainstreaming for Secondary Teacher Education, Presentation for National Dean's Grant Conference, Minneapolis, MN, 1978.

Smith, L. M., and Keith, P. M. Anatomy of Educational Innovations. Wiley and Sons, New York, NY, 1971.